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The measurements were taken on the outside limbs of both planets, and 9″·6 (*Mars*, 2″·3, *Saturn*, 7″·3) subtracted for semi-diameter.

Time was taken by watch compared before and after observations with chronometer, and the error of the latter taken by five sextant altitudes of Sun the same afternoon.

Each number represents a single setting of the position and distance wires, as clouds were so frequent that only occasional measurements were possible.

Observations of Mars and Saturn at their Conjunction, 1889 *September* 19, *made at the Royal Observatory, Greenwich*. By E. W. Maunder.

(*Communicated by the Astronomer Royal.*)

A careful watch was kept for the two planets from their rising, but it was not until 17^h G.M.T. that the clouds passed away from before them sufficiently for any observations to be made. The following differences of Right Ascension and North Polar Distance were then observed by means of the transit micrometer of the south-east equatorial; aperture 12·8 inches. The times of transit of the two planets over the first four of the nine galvanic wires were recorded on the chronograph, and the differences of N.P.D. of the planets measured by the declination micrometer. The observations were made with considerable difficulty, as the images throughout were ill-defined and unsteady, and *Saturn* was pale and faint, the background of the sky being bright throughout the observations. Indeed the Sun had risen before the last six transits were taken.

The centres of both planets were observed in every instance except the second transit, when the first limb of *Saturn* was observed in R.A., but the centre in N.P.D. This observation has been corrected for the semi-diameter of the planet. The observations have been all corrected for the differential effect of parallax and refraction, and in the last two columns they are all reduced to the same epoch, 17^h 30^m G.M.T. The last observation has been rejected in taking the mean, as *Saturn* was then so faint that it could only be seen with the greatest difficulty, and was continually lost to sight. No further observations could be made after this transit as *Saturn* was then quite invisible.

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Mars.—Saturn.

No. of Obs.	G.M.T. of Observation.			Corr. for Par.	Corr. for Refrac.	Diff. in R.A. Corrected.	Corr. for Par.	Corr. for Refrac.	Diff. in N.P.D. Corrected.		Reduced to 17h 30 Diff. in R.A.	Diff. in N.P.D	
	h	m	s	s	s	s	″	″	′	″	s	′	
1	17	9	6	−0·11	−0·04	−13·27	−1·96	−0·2	−2	10·1	−11·55	−2	
2	17	13	3	−0·11	−0·04	−13·04	−1·96	−0.2	−2	7·2	−11·65	−1	5
3	17	23	2	−0·11	−0·03	−12·14	−1·94	−0·2	−2	5·4	−11·57	−2	
4	17	27	3	−0·11	−0·03	−11·79	−1·93	−0·2	−2	2·9	−11·55	−2	
5	17	29	3	−0·11	−0·03	−11·74	−1·93	−0·1	−2	1·0	−11·66	−2	
6	17	31	4	−0·11	−0·03	−11·47	−1·92	−0·1	−1	59·9	−11·56	−2	
7	17	33	6	−0·11	−0·02	−11·33	−1·92	−0·1	−1	58·8	−11·58	−2	
8	17	35	3	−0·11	−0·02	−11·25	−1·92	−0·1	−1	58·0	−11·67	−2	
9	17	37	2	−0·11	−0·02	−11·05	−1·92	−0·1	−1	57·4	−11·63	−2	
10	17	39	3	−0·11	−0·02	−10·91	−1·91	−0·1	−1	57·0	−11·65	−2	
11	17	41	3	−0·11	−0·02	−10·51	−1·91	−0·1	−1	56·6	−11·42	−2	
12	17	43	3	−0·11	−0·02	−10·43	−1·91	−0·1	−1	56·5	−11·50	−2	
13	17	45	1	−0·11	−0·02	−10·38	−1·90	−0·1	−1	55·8	−11·61	−2	
14	17	47	4	−0·11	−0·02	−10·08	−1·90	−0·1	−1	55·1	−11·48	−2	
15	17	51	2	−0·10	−0·02	− 9·85	−1·89	−0·1	−1	52·6	−11·58	−2	
16	17	53	2	−0·10	−0·02	− 9·75	−1·89	−0·1	−1	50·7	−11·64	−2	
17	17	55	2	−0·10	−0·02	− 9·50	−1·89	−0·1	−1	50·0	−11·56	−2	
18	17	57	3	−0·10	−0·02	− 9·25	−1·88	−0·1	−1	47·0	−11·47	−1	5
19	17	59	4	−0·10	−0·02	−(9·65)	−1·88	−0·1	−(1	47·6)	−(12·04)	(−2	0
										Mean	−11·574	−2	1

A positive eyepiece, power 130, was employed throughout.

Observations of the Occultation of Jupiter by the Moon, made at the Royal Observatory, Greenwich, 1889 August 7.

(*Communicated by the Astronomer Royal.*)

	Phenomenon.	Telescope.	Power.	Moon's Limb.	Mean Solar Time of Observation.			Observer.
					h	m	s	
(*a*)	Disapp. First contact	S.E. Eq.	60	Dark	7	4	34·33	W. C.
(*b*)	,,	E. Eq.	70	,,	7	4	36·19	C.
	,,	Simms' No. 1	75	,,	7	4	28·97	S. D.
(*c*)	Last contact	S.E. Eq.	60	,,	7	6	5·33	W. C.
(*d*)	,,	E. Eq.	70	,,	7	6	10·92	C.
	,,	Simms' No. 1	75	,,	7	6	7·97	S. D.
(*e*)	Reapp. First contact	S. E. Eq.	200	Bright	7	59	56·37	W. C.
(*f*)	,,	E. Eq.	70	,,	7	59	54·59	C.

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